

a second circuit connected to said first circuit for stopping the operation of said first circuit after the predetermined time period has elapsed to stop said first current source from providing the overdrive current;

said second circuit also being connected to said second current source and operating said second current source to provide the second current as an ordinary current for driving the switching element.--

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^{2.}
--~~2~~. An overdrive circuit as set forth in Claim ¹~~2~~, wherein said first current source comprises a first plurality of bipolar transistors having respective base, collector and emitter electrodes and arranged in parallel relationship with respect to each other with the bases, collectors and emitters of the first plurality of bipolar transistors being respectively connected together;

said first circuit connected to said first current source including a bipolar transistor having base, collector and emitter electrodes, the base of said first circuit bipolar transistor being connectable to a voltage supply source and having the collector thereof connected to the commonly connected bases of said first plurality of bipolar transistors of said first current source; and

said first circuit bipolar transistor being conductive over the predetermined time period for rendering the first plurality of bipolar transistors included in said first current source conductive so as to provide the first current as the overdrive current for driving the switching element.--

^{3.}
--~~4~~. An overdrive circuit as set forth in Claim ²~~3~~, wherein said second current source for supplying the second current smaller in magnitude than the first current comprises a second

plurality of bipolar transistors having base, collector and emitter electrodes and arranged in parallel relationship with respect to each other with the bases, collectors and emitters of the second plurality of bipolar transistors being respectively connected together;

said second circuit including a second circuit bipolar transistor having base, collector and emitter electrodes, the base of said second circuit bipolar transistor being connectable to the voltage supply source, and the collector of said second circuit bipolar transistor being connected to a node located in the connection between the voltage supply source and the base of said first circuit bipolar transistor;

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said second circuit bipolar transistor being rendered conductive in response to a rise in voltage at the base thereof and drawing current from the voltage supply source through the collector thereof so as to lower the voltage applied to the base of said first circuit bipolar transistor for turning off said first circuit bipolar transistor to render said first circuit bipolar transistor nonconductive;

said first plurality of bipolar transistors defining said first current source being rendered nonconductive to stop said first current source from providing the overdrive current in response to said first circuit bipolar transistor being rendered nonconductive; and

said second circuit bipolar transistor, when conductive, rendering said second plurality of bipolar transistors defining said second current source conductive so as to operate said second current source to provide the second current as the ordinary current for driving the switching element.--

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--~~5~~. An overdrive circuit as set forth in Claim *2*, further including first and second resistors respectively disposed in the

connection between the voltage supply source and said first and second current sources;

said first resistor being determinative of the magnitude of the overdrive current provided by said first current source, and said second resistor being determinative of the magnitude of the ordinary current provided by said second current source.--

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~~--6.~~ An overdrive circuit as set forth in Claim ¹~~2~~, wherein said first and second current sources have their respective outputs connected to a common node;

a current mirror circuit having an input and an output, the input of said current mirror circuit being connected to the common node to which the outputs of said first and second current sources are connected; and

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Cont. an output terminal connected to the output of said current mirror source and adapted to be connected to the switching element to be driven.--

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~~--7.~~ An overdrive circuit as set forth in Claim ⁵~~6~~, wherein said current mirror circuit includes a plurality of bipolar transistors having commonly connected base, collector and emitter electrodes; and

an actuator bipolar transistor having base, collector and emitter electrodes, the collector of said actuator bipolar transistor being connectable to the voltage supply source, the base of said actuator bipolar transistor being connected to the common node connecting the outputs of said first and second current sources, and the emitter being connected to the commonly connected bases of said plurality of bipolar transistors included in said current mirror circuit;

said actuator bipolar transistor being rendered conductive in response to the application of either of the first or second

current as respectively provided by said first and second current sources to the base thereof to turn on said plurality of bipolar transistors for rendering said current mirror circuit operative to provide a driving current at the output terminal.--

7.

--~~8~~. An overdrive circuit as set forth in Claim ~~6~~⁵, wherein said current mirror circuit comprises a single bipolar transistor having base, collector and emitter electrodes;

the base of said single bipolar transistor defining said current mirror circuit being connected to the common node to which the outputs of said first and second current sources are connected; and

said single bipolar transistor defining said current mirror circuit being rendered conductive in response to the application of either of the first or second current as respectively provided by said first and second current sources to the base thereof to provide a driving current at the output terminal.--

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--~~9~~. An overdrive circuit as set forth in Claim ~~7~~⁶, wherein the output from said current mirror circuit is applied to said output terminal via the collectors of said plurality of bipolar transistors included in said current mirror circuit.--

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--~~10~~. An overdrive circuit as set forth in Claim ~~8~~⁶, wherein the output from said current mirror circuit is applied to said output terminal via the emitters of said plurality of bipolar transistors included in said current mirror circuit.--

Cancel Claim 1 without prejudice.

REMARKS

Claims 2-10, inclusive, are presented in this application.